

CLAIMS

Therefore, having thus described the invention, at least the following is claimed:

1 1. A method of producing a reinforced structural member comprising the
2 steps of:
3 providing an elongate reinforcing structure of foraminous high strength material
4 defining an array of openings therethrough;
5 extruding an exterior body of water-impermeable material about and into contact
6 with said reinforcing structure;
7 encapsulating said reinforcing structure within said exterior body, and curing the
8 exterior body.

1 2. The method of claim 1, wherein the step of extruding an exterior body of
2 water-impermeable material about said reinforcing structure comprises urging the water-
3 impermeable material through the holes of the foraminous material.

1 3. The method of claim 1, wherein said forming step further comprises
2 forming a substantially planar elongate central wall and a pair of side walls extending
3 along opposed lateral edges of said central wall.

1 4. The method of claim 3, wherein each said side wall is substantially
2 perpendicular to said central wall and substantially parallel to other said side wall.

1 5. The method of claim 4, wherein said extruding step further comprises
2 extruding said exterior body such that said exterior body is substantially I-shaped in cross
3 section.

1 6. The method of claim 4, wherein said side walls both extend from said
2 central wall in the same direction.

1 7. The method of claim 1, wherein:
2 said extruding step further comprises extruding said exterior body such that said
3 exterior body is substantially I-shaped in cross section; and
4 said reinforcing structure is substantially planar and is disposed along a
5 longitudinal plane of said exterior body.

1 8. The method of claim 1, wherein:
2 said forming step further comprises forming a first and a second angled element,
3 each said first and second angled elements including a pair of walls that intersect at an
4 apex, said apexes being disposed adjacent each other; and
5 said extruding step further comprises extruding said exterior body such that said
6 exterior body is substantially square in cross section.

1 9. The method of claim 1, wherein:
2 said forming step further comprises forming a first and a second channeled
3 element, each said first and second channeled elements including a substantially planar
4 central wall and a pair of parallel side walls extending perpendicularly therefrom, said
5 central walls being juxtaposed each other; and
6 said extruding step further comprises extruding said exterior body in a
7 substantially square cross section shape.

1 10. The method of claim 1, wherein:
2 said forming step further comprises forming said reinforcing structure such that
3 said reinforcing structure is U-shaped in cross section; and
4 said extruding step further comprises forming said exterior body such that said
5 exterior body is U-shaped in cross section.

1 11. The method of claim 1, wherein:
2 said forming step further comprises forming said reinforcing structure such that
3 said reinforcing structure includes a plurality of planar sections and a pair of lateral edges;
4 and
5 said extruding step further comprises extruding a male interlocking connector and
6 a female interlocking connector on opposite of said opposed lateral edges, said male and
7 female interlocking connectors configured to be slidably engage.

1 12. The method of claim 1, wherein said providing step further comprises
2 providing an elongate reinforcing structure of steel.

1 13. The method of claim 1, wherein said providing step further comprises
2 providing an elongate reinforcing structure of fiberglass.

1 14. A reinforced structural member comprising:
2 an elongate reinforcing structure formed of high strength material defining an
3 array of equally spaced openings therethrough;
4 an exterior body of water-impermeable material positioned about and in contact
5 with said reinforcing structure; and
6 wherein said reinforcing structure is encapsulated within said exterior body.

1 15. The reinforced structural member of claim 14, wherein said reinforcing
2 structure is comprised of steel and has a thickness from approximately 0.010 to 0.750
3 inches.

1 16. The structural member of claim 15, wherein said reinforcing structure
2 further comprises a substantially planar elongate central wall and a pair of side walls
3 extending along opposed lateral edges of said central wall.

1 17. The structural member of claim 16, wherein each said side wall is
2 substantially perpendicular to said central wall and substantially parallel to other said side
3 wall.

1 18. The structural member of claim 17, wherein said exterior body is
2 substantially I-shaped in cross section.

1 19. The structural member of claim 17, wherein said side walls both extend
2 from said central wall in the same direction.

1 20. The structural member of claim 14, wherein:
2 said exterior body is substantially I-shaped in cross section; and
3 said reinforcing structure is substantially planar and is disposed along a
4 longitudinal plane of said exterior body.

1 21. The structural member of claim 14, wherein:
2 said reinforcing structure includes a first and a second angled element, each said
3 first and second angled elements including a pair of walls that intersect at an apex, said
4 apexes being disposed adjacent each other; and
5 said exterior body such that said exterior body is substantially square in cross
6 section.

1 22. The structural member of claim 14, wherein:
2 said reinforcing structure includes a first and a second channeled element, each
3 said first and second channeled elements including a substantially planar central wall and
4 a pair of parallel side walls extending perpendicularly therefrom, said central walls being
5 disposed parallel to each other; and
6 said exterior body is substantially square in cross section.

1 23. The structural member of claim 14, wherein:
2 said reinforcing structure is U-shaped in cross section; and
3 said exterior body is U-shaped in cross section.

1 24. The structural member of claim 14, wherein:
2 said reinforcing structure includes a plurality of planar sections and a pair of
3 lateral edges; and
4 said exterior body includes a male interlocking connector and a female
5 interlocking connector on opposite of said opposed lateral edges, said male and female
6 interlocking connectors configured to be slidably engaged.

1 25. The structural member of claim 14, wherein said high strength material is
2 selected from the group consisting of: steel, galvanized steel and aluminum.

1 26. The structural member of claim 14, wherein said high strength material is
2 fiberglass.

1 27. An elongated reinforced structural member suitable for being driven into
2 the ground, comprising:
3 an elongated reinforcing structure formed of high strength material defining an
4 open network of openings there through,
5 an exterior body of water-impermeable synthetic material surrounding said
6 reinforcing structure, said exterior body locked to said reinforcing structure by extending
7 through said openings of said reinforcing structure,
8 said exterior body having a length, a width and a thickness,
9 said reinforcing structure extending along substantially the entire length of said
10 exterior body and substantially along the entire width of said exterior body for providing
11 an impact area at the ends of the structural member for receiving impacts during the
12 driving of the structural member into the ground,
13 said reinforcing structure being of greater tensile and compressive strength than
14 said exterior body, so that the longitudinal forces received at an end of said structural
15 member are transmitted through said reinforcing structure from one end to the other end
16 of the reinforcing structure.

1 28. The structural member of claim 27, wherein said reinforcing structure
2 comprises expanded sheet metal, and said exterior body is characterized by having been
3 extruded onto said reinforcing structure.

- 1 29. The structural member of claim 27, wherein the holes in said reinforcing
2 structure retards the spread of rust and corrosion of said reinforcing structure.